

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



WATER SUPPLY SUMMARY AND OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE
and
OREGON STATE UNIVERSITY
and
STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above
in cooperation with other Federal, State and private organizations.

AS OF
OCT. 1, 1969

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80521
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY SUMMARY AND OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

OCTOBER 8, 1969

Issued by

KENNETH E. GRANT
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

|||||

Released by

A.J. WEBBER
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
PORTLAND, OREGON

In Cooperation with

G. BURTON WOOD
DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

CHRIS L. WHEELER
STATE ENGINEER
STATE OF OREGON

|||||

Report prepared by

TOMMY A. GEORGE, Snow Survey Supervisor
and
HOWARD M. VANCE, Assistant Snow Survey Supervisor
SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST
PORTLAND, OREGON 97205

WATER SUPPLY SUMMARY AND OUTLOOK for OREGON

October 1, 1969

Most Oregon water users experienced excellent water supplies during this past summer. The heavy winter's snowpack produced much above average to average streamflow. This combined with above normal June rains, which delayed irrigation water requirements, provided irrigators with enough water to satisfy their needs. Lack of precipitation in July and August caused flows in most streams to drop rapidly in August and a few users, diverting directly from these streams, experienced some minor shortages at this time. Overall, 1969 was the best water year Oregon has had since 1965.

Irrigation reservoirs in the state again served their need this summer and current carryover storage is a very good 127 percent of average. An exception is the Deschutes River reservoirs, Wickiup, Crane Prairie, and Crescent Lake, where October 1 stored water is only 67 percent of average. Shortages will occur in this area next year unless fall inflows are good and winter snowpacks are much above average. A bright spot is Owyhee reservoir, where enough water is already stored to supply irrigators in that area next year.

Streamflow was excellent this summer. Runoff was much above normal during the early season months, April, May, and June, and then slacked off more than usual amounts during the dry period of July and August due to lack of rainfall.

Typical April-September flows*, as percent of 1953-67 average versus April 1 forecasts, are as follows:

	Flow	April 1 Forecast
Owyhee Reservoir Net Inflow	246%	251%
Umatilla at Pendleton	145%	119%
Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	117%	108%
Rogue at Raygold	106%	107%
Upper Klamath Lake Inflow	114%	125%

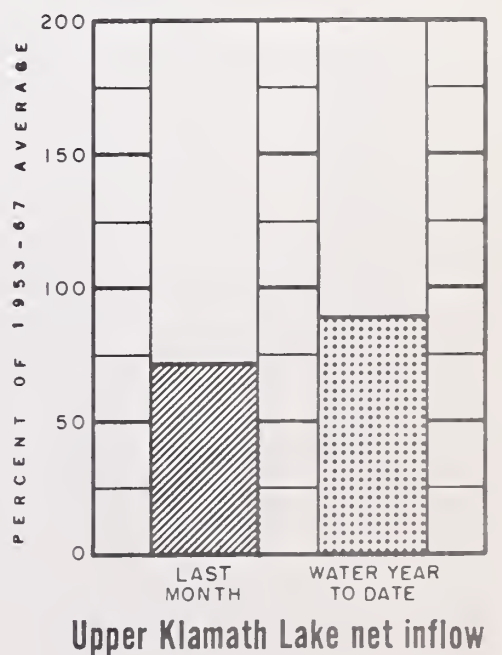
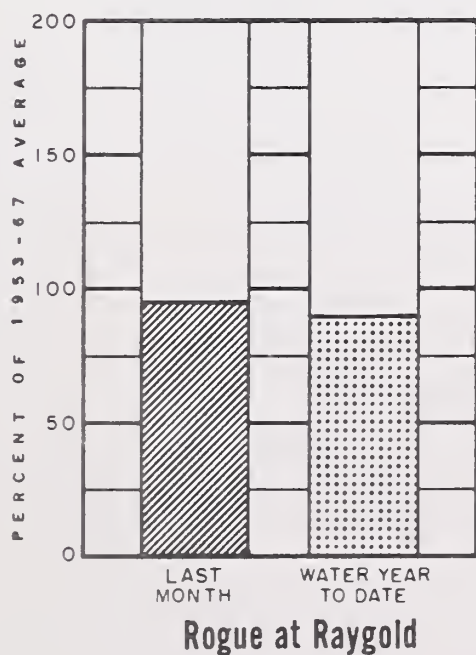
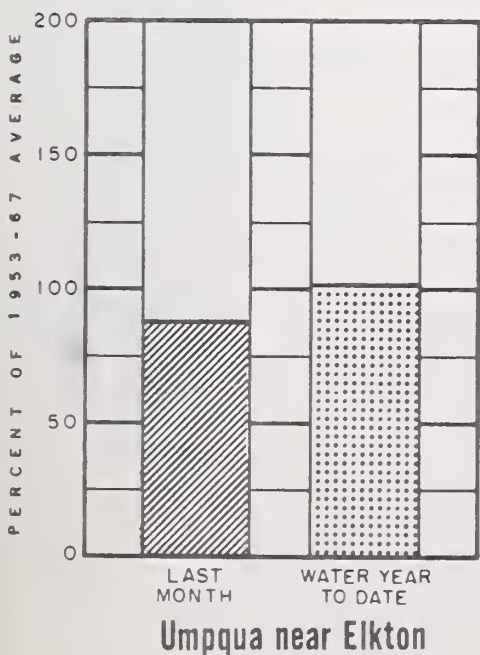
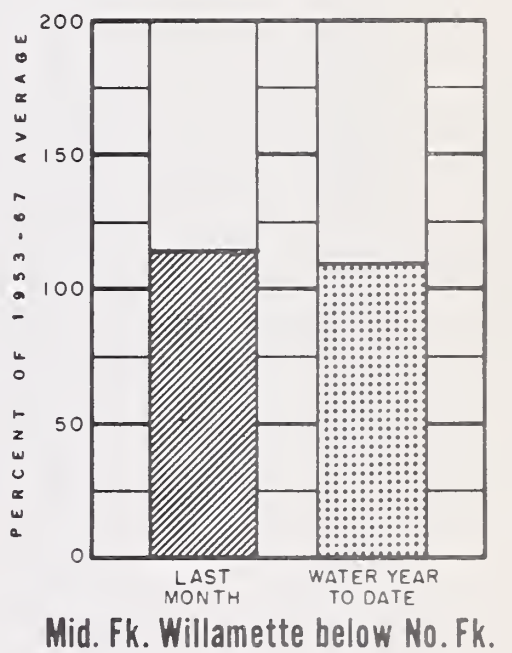
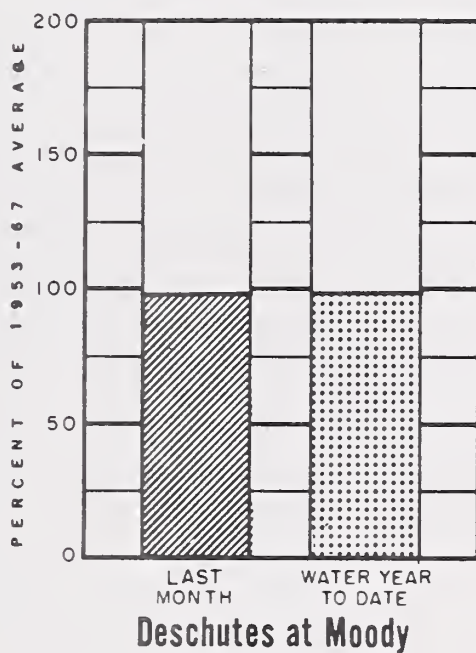
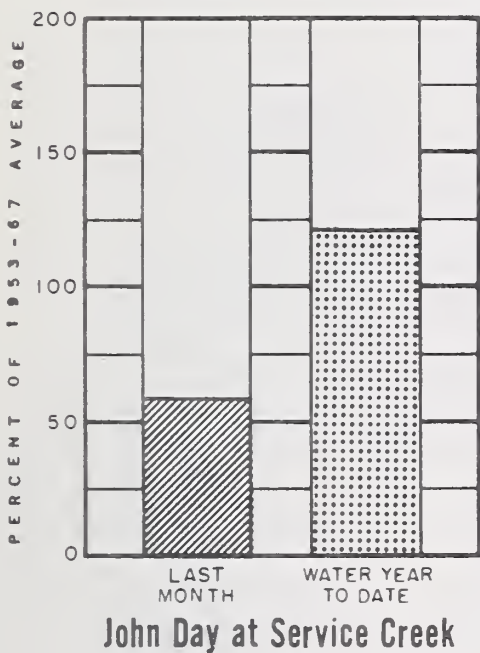
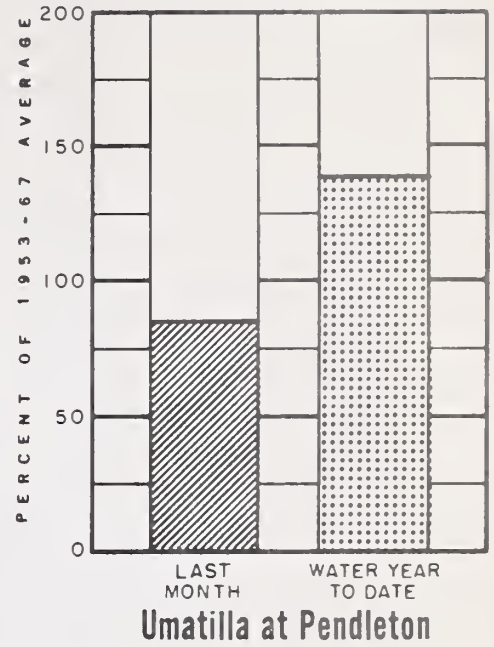
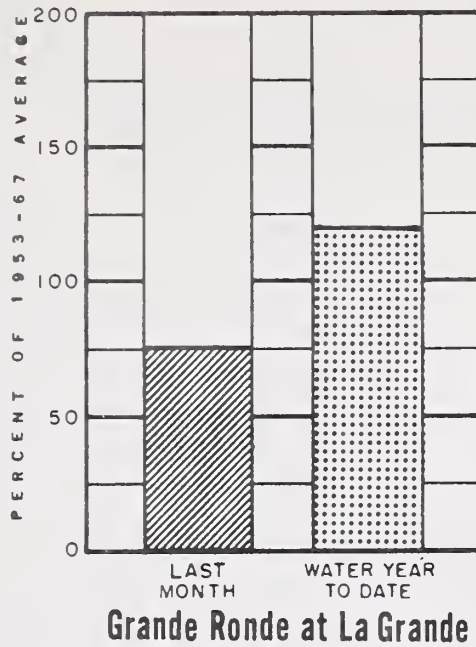
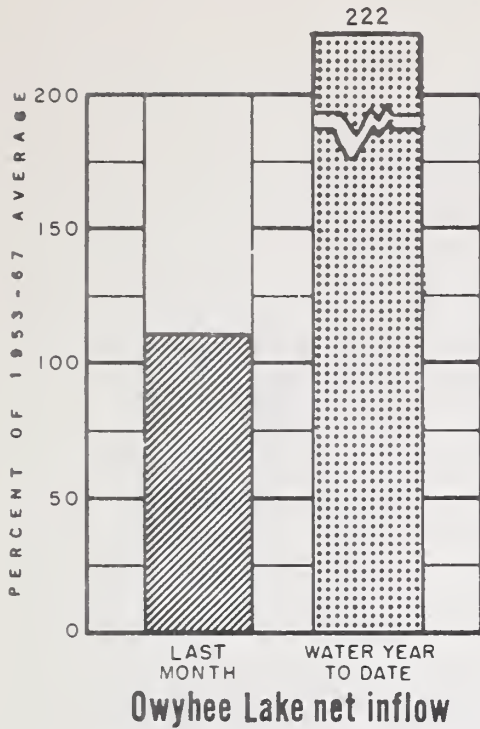
Mountain and valley soil moisture in western Oregon is adequate because of rains received in September. Some areas in eastern Oregon, such as Wallowa, Baker, Jefferson, and Klamath counties, still need good rains in October to wet their soils before the winter snowpack accumulation begins.

Prospects for next year look good in most areas. Reservoir storage is above normal and an above average snowpack this winter will insure another excellent water year in 1970 for everyone.

*Provisional data furnished by U. S. Geological Survey, Portland, Oregon.

CURRENT OREGON STREAMFLOW

October 1, 1969



STATUS OF RESERVOIR STORAGE, OCTOBER 1, 1969

RESERVOIR	USABLE	THOUSANDS ACRE FEET IN STORAGE ABOUT OCT. 1		
	CAPACITY (Thous. A.F.)	1969	1968	15-Year Average 1953-67
<u>UPPER COLUMBIA DRAINAGE</u>				
Antelope	55.0	5.3	1.8	6.9
Owyhee	715.0	436.8	139.3	281.9
Agency Valley	60.0	5.5	0.0	8.1
Bully Creek	30.0	7.1	4.8	6.4
Warm Springs	191.0	60.4	0.0	45.6
Phillips Lake	73.5	25.2	1.9	- -
Unity	25.2	1.7	1.7	2.7
Wallowa Lake	37.5	8.2	16.9	15.4
<u>LOWER COLUMBIA DRAINAGE</u>				
Cold Springs	50.0	2.0	3.8	2.6
McKay	73.8	25.7	1.0	6.1
Ochoco	47.5	18.0	1.2	15.0
Prineville	153.0	108.4	70.9	103.0
Crane Prairie	55.3	15.6	10.2	22.9
Crescent Lake	86.9	26.7	15.3	33.9
Wickiup	200.0	25.9	10.6	45.6
Cottage Grove	30.0	11.9	7.4	5.5
Cougar	155.2	76.1	91.8	- -
Detroit	299.9	157.5	211.8	193.0
Dorena	70.5	25.8	14.1	7.2
Fall Creek	115.0	16.5	12.0	- -
Fern Ridge	94.2	66.8	80.2	50.7
Foster	30.0	21.5	24.5	- -
Green Peter	270.0	106.1	122.9	- -
Hills Creek	200.0	134.7	93.2	124.7
Lookout Point	337.2	208.7	223.8	213.4
Timothy Lake	61.7	66.5	62.5	58.6
<u>WEST COAST DRAINAGE</u>				
Fourmile Lake	16.1	10.1	1.2	6.7
Fish Lake	7.8	3.3	1.2	2.4
Howard Prairie	60.0	45.7	24.5	33.6
Hyatt Prairie	16.1	10.9	7.1	7.9
Emigrant Lake	39.0	12.2	7.3	9.4
Upper Klamath	584.0	341.2	212.0	307.3
Gerber	94.0	48.5	16.5	27.1
Clear Lake	440.2	235.8	122.4	168.6
Cottonwood	8.7	1.8	0.7	0.4
Drews	63.0	33.9	11.4	24.0

SOIL MOISTURE

SOIL MOISTURE		PROFILE (Inches)		SOIL MOISTURE (Inches)			
STATION		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
AREA 1							
Bear Creek (Nev.)	7800	72	16.8	No Report		11.9	- -
Big Bend (Nev.)	6700	48	16.7	9/23	13.4	15.8 ^f	15.0
Blue Mtn. Springs	5900	42	16.9	10.1	5.3	5.7	5.4
Crane Prairie	5375	48	18.2	10/1	14.4	14.5	14.5
Folly Farm	4450	30	12.5	9/18	7.8	- -	- -
Jack Cr., Lower (Nev.)	6800	48	8.6	9/18	6.4	7.8	7.3
Jordan Valley	4390	48	19.3	9/17	14.0	14.9	13.2
Mud Flat (Ida.)	5500	48	12.8	b		10.8	8.7
Rodeo Flat (Nev.)	6800	42	11.0	9/17	8.3	10.5 ^f	9.9
Stinking Water Summit	4800	48	21.9	b		21.4	- -
Taylor Canyon (Nev.)	6200	48	15.1	9/18	9.5	12.6 ^f	11.3
Triangle (Ida.)	5150	48	16.6	10/6	9.7	13.4	7.8
AREA 2							
Blue Mtn. Summit	5100	36	16.8	9/26	8.0	7.9	7.7
Dooley Mountain	5430	36	9.2	9/26	2.2	2.4	2.4
Emigrant Springs	3925	48	22.3	9/23	21.2	16.8	10.8
Ladd Summit	3730	48	18.9	9/30	9.2	8.7	8.6
Moss Springs	5850	42	25.8	9/30	11.7	14.6	10.6
Tollgate	5070	48	23.6	9/25	10.2	15.3	10.3
AREA 3							
Athena-Weston	1700	48	18.7	No Report		9.1	11.1
Battle Mtn. Summit	4340	48	13.8	9/26	9.8	9.8	9.5
Emigrant Springs	3925	48	22.3	9/23	21.2	16.8	10.8
Tollgate	5070	48	23.6	9/25	10.2	15.3	10.3
AREA 4							
Battle Mtn. Summit	4340	48	13.8	9/26	9.8	9.8	9.5
Beech Creek	4800	48	21.3	10/1	7.4	7.3	7.6
Blue Mountain Springs	5900	42	16.9	10/1	5.3	5.7	5.4
Blue Mountain Summit	5100	36	16.8	9/26	8.0	7.9	7.7
Derr	5670	24	9.0	Report Delayed		4.7	3.7
Marks Creek	4540	36	14.1	9/24	9.2	8.9	8.7
Snow Mountain	6300	48	16.7	Report Delayed		9.9	9.9
Starr Ridge	5150	36	10.6	10/1	7.2	7.2	7.0
Williams Ranch	4500	42	17.9	10/1	14.2	15.1	13.7
AREA 5							
Derr	5670	24	9.0	Report Delayed		4.7	3.7
Marks Creek	4540	36	14.1	9/24	9.2	8.9	8.7
Snow Mountain	6300	48	16.7	Report Delayed		9.9	9.9
AREA 6							
Cooper Spur	3490	72	26.4	9/25	9.7	13.7	- -
AREA 10							
Bly Mountain	5090	42	14.0	9/26	7.4	8.2	7.9
AREA 11							
Camas Creek	5720	42	14.5	Report Delayed		9.3	9.7
Quartz Mountain	5320	48	15.3	9/23	5.7	4.8	4.7
AREA 12							
Blue Mountain Spring	5900	42	16.9	10/1	5.3	5.7	5.4
Fish Creek	7900	48	15.0	9/25	8.6	8.3	7.8
Folly Farm	4450	30	12.5	9/18	7.8	- -	- -
Silvies	6900	48	16.4	9/25	10.0	12.1	11.8
Snow Mountain	6300	48	16.7	Report Delayed		9.9	9.9
Starr Ridge	5150	36	10.6	10/1	7.2	7.2	7.0
Stinking Water	4800	48	21.9	b		21.4	- -
Willow-Bald	5000	24	6.6	Report Delayed		3.4	3.4

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY

- Douglas County Water Resources Survey

FEDERAL

- Department of Agriculture
 - Cooperative Extension Service
 - Forest Service
 - Soil Conservation Service
- Department of Commerce
 - Weather Bureau
- Department of the Interior
 - Bonneville Power Administration
 - Bureau of Land Management
 - Bureau of Reclamation
 - Fish and Wildlife Service
 - Geological Survey
 - National Park Service
- Department of National Defense
 - Corps of Army Engineers

PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205
OFFICIAL BUSINESS

U. S. DEPARTMENT OF AGRICULTURE
POSTAGE AND FEES PAID

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*

U.S. Dept. of Agriculture
National Agricultural Library
Current Serial Record
Washington, D. C. 20250

S
(2)

D 3 2 8 6